FINAL

CULTURAL RESOURCES INVENTORY
for the
SOL ORCHARD PROJECT, RAMONA, SAN DIEGO COUNTY, CALIFORNIA

P 11-029, Log No. 11-09-009; APN 283-083-07-00

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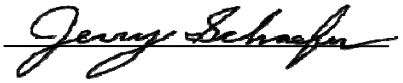

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NADB

NATIONAL ARCHAEOLOGICAL DATABASE INFORMATION

Author:	Chad A. Willis and Micah Hale
Firm:	ASM Affiliates, Inc.
Client/Project Proponent:	RBF Consulting
Report Date:	September 2011
Report Title:	Cultural Resources Inventory for the Sol Orchard Project, Ramona, San Diego County, California
Type of Study:	Phase I Archaeological Survey
New Sites:	SDI-20334, 20335, 20336, 20337, 20338, 20339, 20340, 20341, 20342
Updated Sites:	N/A
USGS Quads:	San Pasqual and Ramona 7.5-minute
Acreage:	45.2 acres
Keywords:	Archaeological Inventory, Positive, San Pasqual and Ramona 7.5' USGS quadrangles, CA-SDI-20334, CA-SDI-20335, CA-SDI-20336, CA-SDI-20337, CA-SDI-20338CA-SDI-2033, CA-SDI-20340, CA-SDI-20341, CA-SDI-20342, prehistoric, bedrock milling station

EXECUTIVE SUMMARY

This inventory was completed to satisfy requirements of the California Environmental Quality Act (CEQA), which requires an inventory of cultural resources on lands planned for development. The Project proponent is preparing an application for development and operation of a photovoltaic (PV) solar farm to be located on privately-held lands near Ramona. Currently, ASM completed a cultural resources inventory for the Sol Orchard Project, including a records search and an intensive pedestrian survey of 100-percent of the project survey areas. ASM identified nine new sites located within the survey area. All sites have been avoided by project design and are thus not within the Area of Potential Effects (APE).

1.0 INTRODUCTION

This report documents the results of a cultural resources inventory completed by ASM Affiliates Inc. (ASM) for the Sol Orchard Project, San Diego County, California. This project is located in Ramona California (Figures 1). This project proposes to install a solar facility within the survey area located in the southeast quarter of the San Pasqual and the southwest quarter of the Ramona 7.5' USGS quadrangles (unsectioned areas) (Figure 2).

1.1 Project Description

The Project proponent is preparing an application for development and operation of a photovoltaic (PV) solar farm to be located on privately-held lands near Ramona. The Project would require approval from the County of San Diego for a Major Use Permit (MUP) to allow for the construction, operation, and maintenance of such facilities for the long-term generation of solar energy. The proposed facilities would have an overall production capacity of 7.5 Megawatts (MW) (alternating current – AC).The Project is expected to supply roughly 10-25 percent of power delivered to the Ramona area, depending on the time of day. No export to transmission is anticipated.

The proposed PV solar facilities would be installed on a portion of an approximately 110-acre parcel to achieve the intended MW output; however, development and MUP authority would be limited to approximately 42.7 acres of the parcel, allowing the unaffected acreage to remain in its present state (agricultural use/livestock raising/dry farming). The Project design would consist of a series of single-axis tracking photovoltaic solar panels supported on a galvanized driven H-pile post system. In isolated cases where geotechnical constraints are encountered, a ballast foundation system would be provided. The panels would be made of monocrystalline or polycrystalline material.

The solar panels would face to the east in the morning and to the west in the evening hours, thereby tracking the sun along the vertical axis to maximize solar absorption during the hours of daylight. The panels would be rack-mounted in a three-panel system, measuring approximately eight feet from the ground surface to the top of panel on flat surfaces and a maximum of 11.5 feet on sloped surfaces. As the height of the proposed PV solar panels would range from approximately 8-11.5 feet as measured from ground surface, the solar panels would not represent elements of large scale or height within the existing landscape. The length of each row of panels would be approximately 300 feet along the north/south axis. The ultimate arrangement/number of PV solar panels, racking, inverter pads and structures, and internal access are shown in on the MUP Plot Plan to illustrate the general configuration of the proposed solar collection system; however, this layout is subject to modification at final engineering design.

Energy generated by the Project would be delivered to an existing 12 kV distribution line that runs parallel to the northern side of Warnock Drive. Connection would be made from the Project site via overhead connection.

The Project is intended to allow for the installation and operation of a photovoltaic electrical generation facility and represents an opportunity to provide residents of Ramona and the greater surrounding area with clean source of electrical power from renewable sources that would supplement energy currently supplied by the existing power grid, thereby reducing the potential for power shortages to occur and decreasing demands on the capabilities of the existing distribution system.

ASM conducted a cultural resources inventory of the proposed project areas to identify cultural resources that are eligible or are potentially eligible for listing on the California Register of Historical Resources (CRHR). This inventory included intensive pedestrian survey providing 100-percent coverage of the project area, and a records search at the South Coastal Information Center (SCIC) for a one-mile radius around the project area.

The pedestrian survey was conducted on June 2, 2011. The survey area included an entire survey of the property, however the Area of Potential Affect (APE) has been defined as a smaller area where the photovoltaic array will be placed (Figure 3).

The current inventory identified nine cultural resources that had not been previously recorded within the project site: SDI-20334 through SDI-20342. All of the sites are bedrock milling features with one or more grinding surfaces. No artifacts or midden soils were identified at any of the sites. The sites are outside of the proposed Major Use Permit boundary, but within close proximity to the APE. Mitigation of indirect impacts to the site can be achieved through avoidance, temporary fencing and grading monitoring (because of the potential for buried artifacts or features).

Figure 1. Project vicinity map.

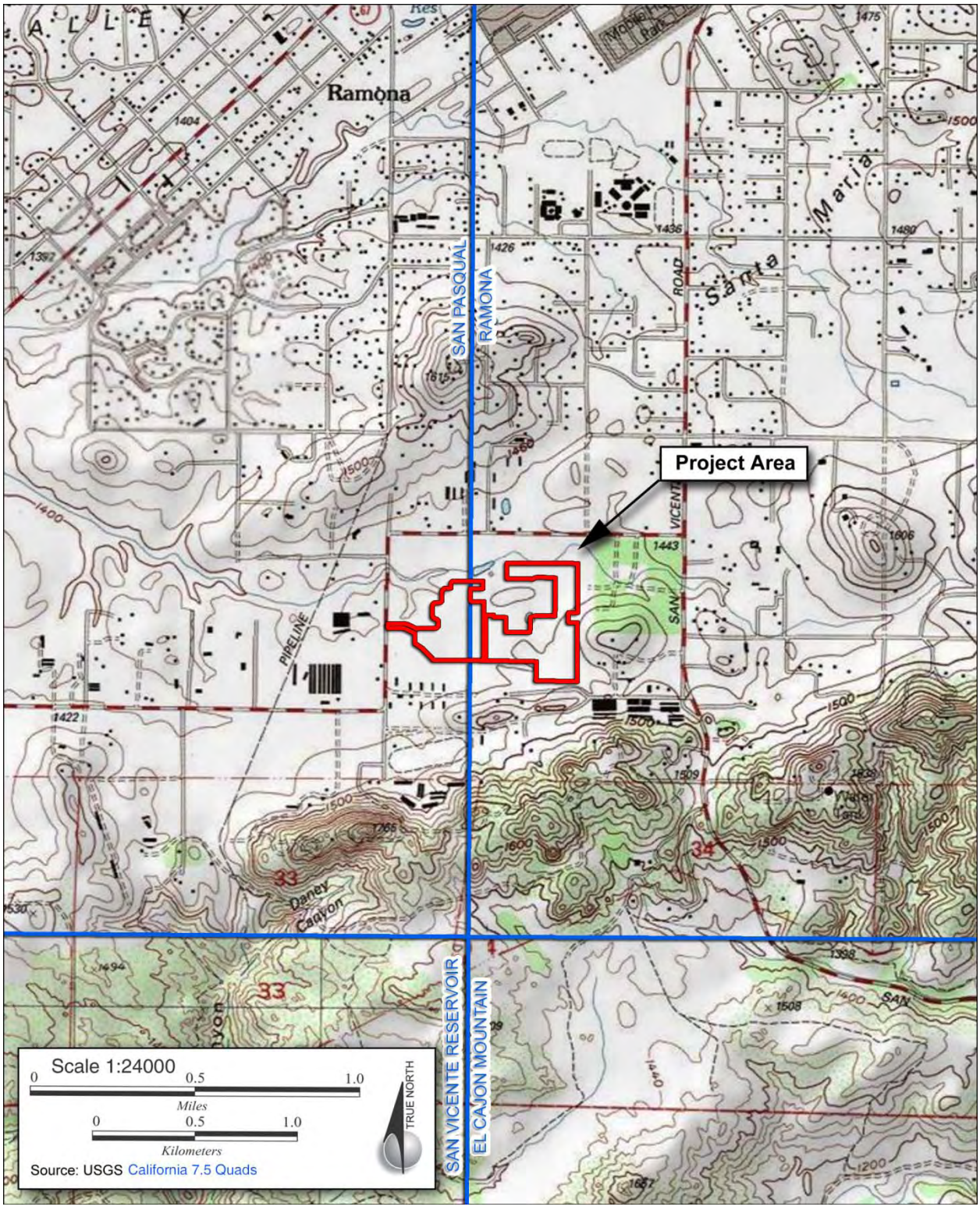

Figure 2. Project location map.

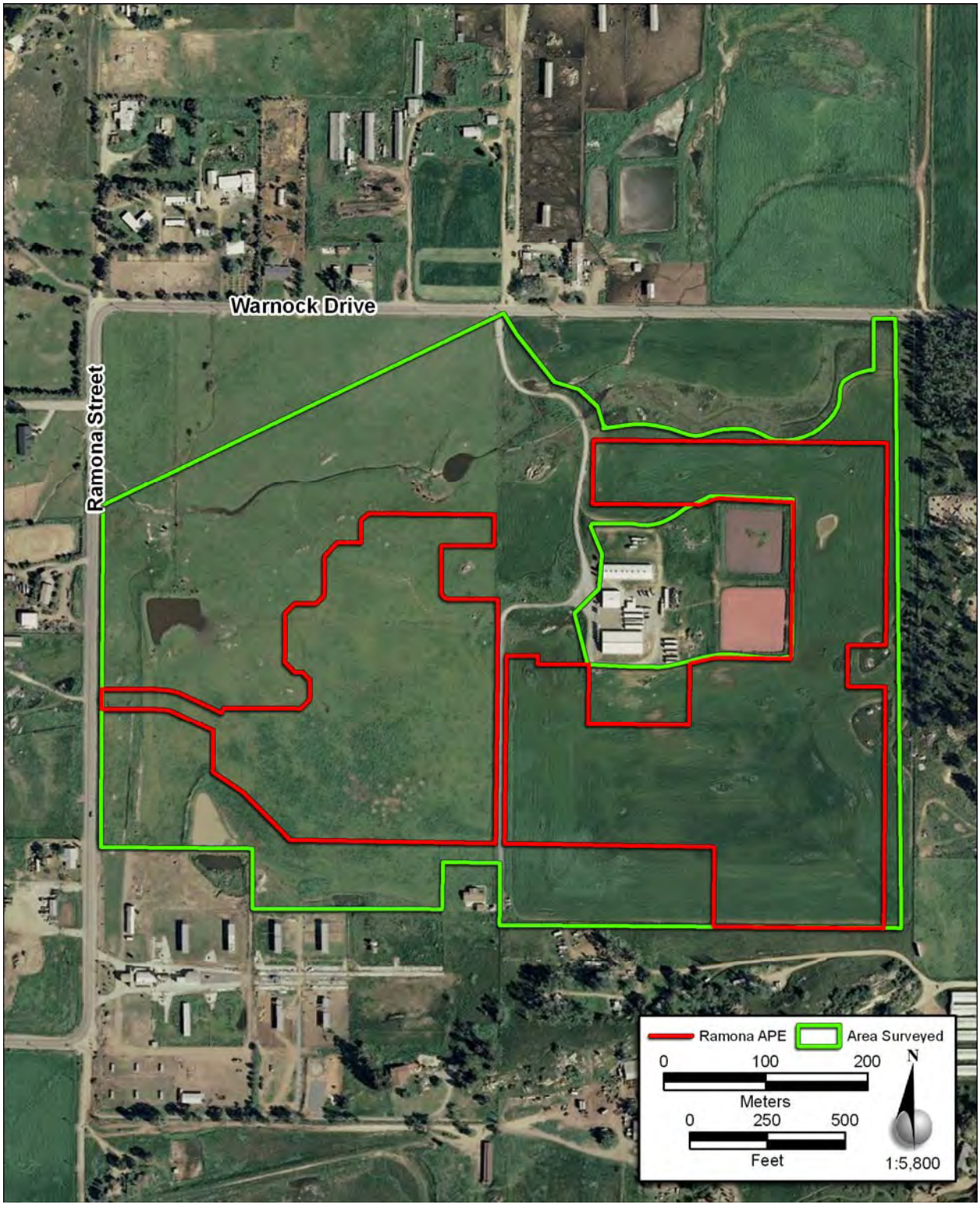

Figure 3. Project design.

1.2 Existing Conditions

1.2.1 Environmental Setting

This section reviews the environmental setting of the survey area, along with prehistoric, ethnohistoric, and historic contexts. Previous archaeological research conducted in the area is also included. The discussion that follows is a summary describing how pertinent investigations in the general region have contributed to the current constructions of past cultural history, and is not intended to be an exhaustive account of all research conducted in the area.

Natural Setting

The project location lies with the mountain province of San Diego County. Geologically, the project area is underlain by pre-Cretaceous rock, which outcrops as granite and gneiss (similar to granite), other patches of exposed quartz diorite and granodiorite (Strand 1962). Much of the surrounding area contains Mesozoic granitic rocks. Metamorphic and granitic rocks provided material for milling tools used by the prehistoric inhabitants of the region, and quartz dikes within the granitic rocks provided a local material for manufacturing flaked stone tools. The region's prime source of material for flaked stone tools was the metavolcanic rock of the Santiago Peak formation, which is available in streambeds in low-lying areas approximately 20 km to the southwest. The valley floor is composed of Quaternary non-marine alluvium characterized by coarse loamy sand derived from granodiorite.

The climate is classified as Mediterranean Hot Summer, or Csa in the Köppen classification (Pryde 2004). Rainfall is about 33 cm per year, falling primarily between December and March. The average January daily minimum temperature is 4°C (39°F), and the average July daily maximum is 32°C (90°F). The climate would have imposed few constraints on prehistoric hunter-gatherers in the region.

The predominant natural vegetation community of the region is chaparral, although perhaps mixed with coastal sage scrub (Pryde 2004). Typical plant species include laurel sumac (*Rhus laurina*), black sage (*Salvia mellifera*), manzanita (*Arctostaphylos spp*.), redshank (*Adenostoma sparsifolium*), oak (*Quercus spp*.), chamise (*Adenostoma fasciculatum*), and California lilac (*Ceanothus sp*.), along with various grasses and legumes. Riparian species are associated with drainages. Mammals, birds, and reptiles within these communities provided potential food resources to prehistoric inhabitants. Much of the natural vegetation in low-lying areas has been displaced by modern land uses for grazing, and orchards. However, the steep mountain slopes harbor relatively intact, dense chaparral and Oak communities. These vegetation communities have been in place since the early Holocene, by at least 7500 B.P., when the climate became noticeably warmer and drier (Axelrod 1978).

Cultural Setting

Evidence for continuous human occupation in the San Diego region spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. This research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 B.C.), Archaic (8000 B.C.-A.D. 500), Late Prehistoric (A.D. 500-1750), and Ethnohistoric (post-A.D. 1750).

Paleoindian (pre-5500 B.C.)

Evidence for Paleoindian occupation in coastal southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal southern California (excluding the Channel Islands) derives from SDI-4669/W-12, in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9590-9920 years before present (B.P.) (95.4 percent probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air Weapons Station China Lake near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single component Great Basin Stemmed point site (see Basgall et al. 2002). At MNO-679 and -680, ground stone tools were rare while finely made projectile points were common.

Turning back to coastal southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter-gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 B.P.) that submerged as much as 1.8 km of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as SDI-210 along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 B.P.) that are commonly found at sites in California's high desert (see Basgall and Hall 1990). SDI-210 yielded one corrected radiocarbon date of 8520-9520 B.P. (see Warren et al. 2004).

However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 B.C. (Warren et al. 2004:26). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (see also Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (see Basgall and Hall 1990).

Archaic (8000 B.C.-A.D. 500)

The more than 1,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (see Hale 2001, 2009).

The Archaic pattern is relatively easy to identify (albeit hard to define) with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude

scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (see Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around A.D. 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

Late Prehistoric (A.D. 500-1750)

The interval following the Archaic and prior to ethnohistoric times (A.D. 1750) is commonly referred to as the Late Prehistoric (M. Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-A.D. 1450 period is called the San Luis Rey Complex (True 1980), while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from A.D. 500 until ethnohistoric times (Meighan 1959). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points, large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego region. Some argue that the ethnohistoric intensive acorn economy extends as far back as A.D. 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to A.D. 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately A.D. 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the San Luis Rey pattern, however, and is most recognizable after A.D. 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued

that an acorn economy did not appear in the southern San Diego region until just prior to ethnohistoric times, and that when it did occur, a major shift in social organization followed.

Ethnohistoric (post-A.D. 1750)

Early descriptions of the lifeways of San Diego County ethnohistoric groups were provided by explorers, missionaries, administrators, and other travelers, who gave particular attention to the coastal populations (Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000). Subsequent ethnographers in the early twentieth century were able to give much more objective, detailed, and penetrating accounts. Most of the ethnographers attempted to distinguish between observations of the customs of surviving Native Americans and orally transmitted or inferred information concerning the lifeways of native groups prior to European intrusion into the region. The second of these subjects provides a terminal baseline for discussing the cultures of the region's prehistory. Despite the relatively rich ethnographic record, attempts to distinguish between the archaeological residues that were produced by the linguistically unrelated but culturally similar Luiseño and Ipai/Kumeyaay have been largely unsuccessful (Pigniolo 2004; True 1966).

The project area lies within the territory usually ascribed to the ethnohistoric territory of the Native American Luiseño cultural group, according to Kroeber's study (1925:636; see also Rivers 1993). This group is a Shoshonean speaking population that has inhabited what are now northern San Diego, southern Orange, and southeastern Riverside counties through the ethnohistoric period into the twenty-first century. They are linguistically and culturally related to the Gabrielino and the Cahuilla, and represent the descendants of local Late Prehistoric populations. They are generally considered to have migrated into the area sometime in prehistory from the western Great Basin, possibly displacing the prehistoric ancestors of the Yuman speaking Kumeyaay (Ipai-Tipai) that during ethnohistoric times lived directly to the south.

Aboriginal subsistence in the region was based largely on acquiring natural plants and animals, rather than the cultivation of agricultural crops. Acorns were a staple for the western groups, as were agave and mesquite for eastern groups. Numerous other plants were valued for their dietary contributions from their seeds, fruit, roots, stalks, or greens, and a still larger number of species had known medicinal uses. Game animals included deer first and foremost, but mountain sheep and pronghorn antelope were also present, as well as bears, mountain lions, bobcats, coyotes, and other medium-sized mammals. Small mammals were probably as important in aboriginal diets as larger animals, with jackrabbits and cottontails being preeminent, but woodrats and other rodents were commonly exploited. Various birds, reptiles, and amphibians were consumed as well; food taboos were few in number and inconsistent, judging from the surviving ethnographic record. The only precontact domesticated animal was the dog. It is not clear whether marine fish and shellfish were a mainstay for some coastal groups or merely provided supplemental or emergency food sources for groups that were oriented primarily toward terrestrial resources. Interregional exchange systems are known to have linked the coast with areas to the east in particular, but exchange may have been

concerned more with facilitating social and ceremonial matters than with meeting material needs.

The boundary between the ethnohistoric Native American Luiseño and Juaneño cultural groups lie within Camp Pendleton according to Kroeber's study (1925:636; see also Rivers 1993). Both the Luiseño and Juaneño cultural groups are Takic speaking populations, each having their respective dialect, that have inhabited what is now northern San Diego, southern Orange, and southwestern Riverside counties through the Ethnohistoric period into the twenty-first century. They are linguistically and culturally related to the Gabrielino, Cupeño, and Cahuilla, and represent the descendants of local Late Prehistoric populations. They are generally considered to have migrated into the area from the Mojave Desert, possibly displacing the prehistoric ancestors of the Yuman speaking Kumeyaay (Ipai-Tipai) that lived directly to the south during Ethnohistoric times.

Territorial distribution of ethnohistoric groups is of critical importance in reconstructing adaptations and ethnohistoric modeling for prehistoric interpretation. There is limited ethnohistoric information recorded about the Juaneño, and much of it is derived from accounts about the Luiseño (Kroeber 1925). The name Juaneño derives from association with the Mission San Juan Capistrano. There appears to be differences in dialect and culture between the Juaneño and Luiseño, despite their similarities. The limited territory ascribed to the Juaneño by Kroeber (1925:636) extended from Aliso Creek on the north to the area between San Onofre and Las Pulgas drainages on the south, with the Pacific Ocean forming the western boundary and the crest of the Santa Ana Mountains forming the boundary on the east. Their neighbors to the north were the Gabrielino, and the Luiseño bordered them on the northeast, east, and south. There is, however, some controversy over the nature of the Juaneño as a group. Kroeber (1925:636) recognized Juaneño language as a dialect of Luiseño, but treated the populations as separate groups. Constance Cameron (1987:318) supports this interpretation based on archaeological evidence. Bean and Shipek (1978:550), and White (1963:91) treat the Juaneño as part of the Luiseño on the basis of cultural and linguistic similarities. For the purposes of this ethnohistoric discussion, the Juaneño are considered distinct from the Luiseño.

The Uto-Aztecan inhabitants of northern San Diego County were called Luiseños by Franciscan friars, who named the San Luis Rey River and established the San Luis Rey Mission in the heart of Luiseño territory. Luiseño territory encompassed an area from roughly Agua Hedionda Creek on the coast, east to Lake Henshaw, north into Riverside County, and west through San Juan Capistrano to the coast (Bean and Shipek 1978; Kroeber 1925). The Luiseño shared boundaries with the Gabrielino and Serrano to the west and northwest, the Cahuilla from the deserts to the east, the Cupeño to the southeast, and the Kumeyaay to the south. All but the Kumeyaay (Ipai also known as Northern Diegueño) are linguistically similar to the Luiseño, belonging to the Takic subfamily of Uto-Aztecan (Bean and Shipek 1978).

The Kumeyaay speak a Yuman language related to the proposed large Hokan linguistic phylum. The Kumeyaay (for these purposes include the dialects or languages of Ipai and Tipai) inhabited the region directly south of the Luiseño in southern San Diego County, west and

central Imperial County, and northern Baja California (Almstedt 1982; Gifford 1931; Hedges 1975; Luomala 1978; Shipek 1982; Spier 1923). Luomala (1978) defines the territory similar to the above at latitude 33°15' in the north to about 31°30' in the south, while Ruth Almstedt (1982:9) cites a more traditional view that places the northern boundary around Agua Hedionda Lagoon at Carlsbad. The Kumeyaay occupied a much larger and more diverse environment than the Luiseño, including coastal, foothill, mountain, and desert resource zones. The Yuman-speaking Ipai have a different language and cultural background but shared certain aspects of social structure and technology, and some Kumeyaay incorporated Luiseño religious practices into their cosmology.

Historic (post-A.D. 1542)

European activity in the region began as early as A.D. 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, either by direct contacts with the infrequent European visitors or through waves of diffusion emanating from native peoples farther to the east or south (Preston 2002). It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

Spanish colonial settlement was initiated in 1769, when multiple expeditions arrived in San Diego by land and sea, and then continued northward through the coastal plain toward Monterey. A military presidio and a mission to deal with the local Kumeyaay and Ipai were soon firmly established at San Diego, despite violent resistance to them from a coalition of native communities in 1776. Private ranchos subsequently established by Spanish and Mexican soldiers, as well as other non-natives, appropriated much of the remaining coastal or near-coastal locations (Pourade 1960-1967).

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations in western San Diego County. Some former mission neophytes were absorbed into the work forces on the ranchos, while others drifted toward the urban centers at San Diego and Los Angeles or moved to the eastern portions of the county where they were able to join still largely autonomous native communities. In 1843, the small (28-acre) Cañada de Los Coches rancho in Lakeside was granted to Apolinaria Lorenza, and in 1845, the 48,000-acre El Cajon rancho was granted to María Antonia Estudillo.

United States conquest and annexation, together with the gold rush in northern California, brought many additional outsiders into the region. Development during the following decades was fitful, undergoing cycles of boom and bust. Small-scale settlement of El Cajon and Lakeside began in the late 1800s, including the construction of the San Diego-Cuyamaca Eastern Railroad and the flume from Cuyamaca Reservoir in the 1880s and 1890s. However, it

was not until the second half of the twentieth century that the urbanization of the region exploded.

1.2.2 Record Search Results

A records search was conducted at the South Coastal Information Center (SCIC) for the project area and a 1-mile radius surrounding it. The search involved a review of recorded cultural resources, previous cultural resources survey report boundaries, historic addresses, and a historic maps database. A copy of the record search verification form can be found in Confidential Appendix A.

Previous Studies

Twenty-five (25) previous cultural resource reports have addressed areas within the APE and the 1-mi. record search buffer area (Table 1). These reports are on file at the SCIC. Two of the previous reports address a small portion of the APE. Less than 1 acre of the current APE has previously been addressed in a previous report.

Table 1. Previous Cultural Resources Reports Addressing the APE and 1-mi. Buffer

NADB No.	Authors	Date	Title
1120199	Berryman, Judy A.	1978	Archaeological Test on the Stockton Lot Split, TPM 14361, Ramona, California.
1120277	Carrico, Richard	1978	Archaeological Survey of Tentative Parcel Map 14361 Lot Split Ramona, California.
1121114	Hector, Susan	1983	Archaeological Survey of the A.I.M. Churches Inc. Property - Ramona, California.
1121115	Hector, Susan	1983	Archaeological Survey of the Stockton Property.. RECON.
1121731	Polan, H. Keith	1978	An Archaeological Reconnaissance of Luelf Ranch. Toups Corporation.
1122090	ERB Engineering, Inc.	1987	Draft Environmental Impact Report Luelf Ranch Specific Plan Area GPA Case NO. PAA-22-86 Ramona Commiunity Plan Area County of San Diego, Ca.
1122475	Alter, Ruth and Tim Gross	1992	Cultural Resources Survey for the Rancho Maria Lane Property.
1122594	Berryman, J.	1992	Cultural Resources Survey Zungul Parcel TPM 20039, Escondido.
1122774	ERB Engineering Inc.	1992	Supplemental Draft Environmental Impact Report; Luelf Ranch Specific Plan Area Log #89-9-37.
1123637	Hunt, Kevin P. and Michelle M. Raven-Jennings	1998	Results of a Data Recovery Program at Site SDI-5493, The Holly Oaks Ranch Project, Ramona, California.
1124180	PRC Toups Corp	1979	Draft Environmental Impact Report: Luelf Ranch Tentative Subdivision Map. PRC Toups Corp..
1124425	Fulmer, Scott	1977	Ramona Water District Proposed Pipeline Aligment/Preliminary Impact Evaluation AR Archaeological Resources.
1124681	Smith, Brian	1990	A Cultural Resource Assessment at the 400-Acre Luele Ranch

NADB No.	Authors	Date	Title
1127600	Wade, Sue	1999	Velocity Paintball Park An Inventory and Boundary Identification for Prehistoric and Historic Resources Ramona, California.
1128822	Wright, Gail	2004	Negative Cultural Resources Survey Report for TPM 20792, Log No. 03-09-035, McDonald Minor Subdivision.
1128938	Wright, Gail	2003	Negative Cultural Resources Survey Report for TPM 20760, LOG NO. 03-09-07, Ledesma Lane APN-282-320-08. County of San Diego
1129027	Maxon, Patrick, Alex Wesson, Jason Miller, and James Steely	2004	Cultural Resources Survey of a 23-Acre Parcel for Ramona Due Diligence Assessment, Ramona, San Diego County, California.
1129792	Banks, Thomas	1981	Mitigation of Archaeolgical Site SDI-9060 Ramona, California, TPM 17348, EAD Log No. 81-9-66. Have Mule Will Travel.
1130775	Robbins-Wade, Mary	2003	Archaeological Resources Report, Barnett Ranch Open Space Preserve, Ramona, San Diego County, California.
1131504	Carrico, Susan H. and S. Kathleen Flanigan	1991	Ramona Historic Resources Inventory.
1131772	Robbins-Wade, Mary	2005	Archaeological Resources Assessment, CA-SDI-15052, The Grove, Romona, San Diego County, California.
1131977	SWCA	2008	Final Cultural Resources Survey of Alternative for the Sunrise Powerlink Project in Imperial, Orange, Riverside, and San Diego Counties, California.
1132044	Noah, Anna C. and Dennis R. Gallegos	2008	Final Class III Archaeological Inventory for the SDG&E Sunrise Powerlink Project, San Diego and Imperial Counties, California.
1132203	Gardner, Jill	2009	Negative Cultural Resources Survey Report for the Dye Road Extension Project, Ramona, CA.
1132361	Zepeda-Herman, Carmen	2009	Cultural Resources Survey and Test Excavations for the San Vicente Road Improvements Project.

Previously Recorded Sites Adjacent to Study Area

Thirty-nine (39) previously recorded cultural resources and one historical address have been previously recorded within a 1-mi. buffer around the APE (Table 2). None of these sites are situated within or intersect the project APE. However, during the pedestrian survey nine bedrock milling sites were located within close proximity to the APE.

Table 2. Previously Recorded Cultural Resource within a 1-mi. Radius of the APE

Designation			
Primary Number P-37-	Trinomial CA-SDI-	Site Type	Report Ref. or Recorder
016633	-	One mano and two flakes	Wade 1998
016634	-	Isolate flake	Wade 1998
016639	-	Isolate flake	Wade 1998
016647	-	AH5. Trough	Wade 1998
016650	-	Rock ring	Wade1998
017277	-	Eucalyptus grove	Wade 1998

Designation		Site Type	Report Ref. or Recorder
Primary Number P-37-	Trinomial CA-SDI-		
030273	-	Isolate flake	Noah and Gallegos 2008
005946	5946	AP4. Bedrock milling feature	Berryman; Rhodes 1978
005947	5947	AP2. Lithic scatter; AP3. Ceramic Scatter; AP4. Bedrock milling feature	Berryman; Rhodes 1978
006056	6056	AP2. Lithic scatter; AP4. Bedrock milling feature; AP15. Habitation debris	Berryman; Rhodes 1978
006057	6057	AP4. Bedrock milling feature	Berryman; Rhodes 1978
006058	6058	AP4. Bedrock milling feature	Berryman; Rhodes 1978
006059	6059	AP4. Bedrock milling feature	Berryman; Rhodes 1978
006060	6060	AP4. Bedrock milling feature	Berryman; Rhodes 1978
006061	6061	AP4. Bedrock milling feature	Berryman; Rhodes 1978
006062	6062	AP4. Bedrock milling feature	Berryman; Rhodes 1978
009060	9060	AP4. Bedrock milling feature	Banks 1981
012816	12816	AP4. Bedrock milling feature	Alter and Gross 1992
012817	12817	AP2. Lithic scatter; AP4. Bedrock milling feature; AP15. Habitation debris	Alter and Gross 1992
013086	13086	AP2. Lithic scatter; AP3. Ceramic Scatter; AP15. Habitation debris	Alter and Gross 1992
013087	13087	AP2. Lithic scatter	R. Collet, F. Pearl, D. Hyland 1993
016632	15021	AP4. Bedrock milling feature	Wade 1998
015022	15022	AP2. Lithic scatter; AP4. Bedrock milling feature; AP15. Habitation debris	Wade 1998; Noah and Gallegos 2008
016636	15023	AP2. Lithic scatter; AP15. Habitation debris	Wade 1998
016637	15024	AP4. Bedrock milling feature	Wade 1998; Noah and Gallegos 2008
016638	15025	AP4. Bedrock milling feature; AP15. Habitation debris	Wade 1998
016640	15026	AP15. Habitation debris	Wade 1998
016644	15029	AP2. Lithic scatter; AP3. Ceramic Scatter; AP4. Bedrock milling feature; AP15. Habitation debris	Wade 1998
016648	15031	AP2. Lithic scatter	Wade 1998
016649	15032	AP2. Lithic scatter; AP4. Bedrock milling feature; AP15. Habitation debris	Wade 1998
016658	15035	AP2. Lithic scatter; AP3. Ceramic Scatter; AP4. Bedrock milling feature; AP15. Habitation debris	Wade 1998
016680	15052	AP2. Lithic scatter; AP4. Bedrock milling feature	Wade 1998; Wade 1999; Wade 2004
019216	15931	AP4. Bedrock milling feature	Partick McGinnis of Mooney & Associates 2000
028749	18486	AP4. Bedrock milling feature	Noah and Gallegos 2008
030234	19261	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling feature	Noah and Gallegos 2008
030276	19272	AP4. Bedrock milling feature	Noah and Gallegos 2008
030279	19275	AP4. Bedrock milling feature	Noah and Gallegos 2008

1.3 Applicable Regulations

Cultural resource regulations that apply to the project area are the County of San Diego Resource Protection Ordinance (RPO), the San Diego County Local Register of Historical Resources (Local Register), CEQA, and provisions for the California Register of Historical Resources (CRHR).

Historic or archaeological districts, sites, buildings, structures, and objects are assigned significance based on their exceptional value or quality in illustrating or interpreting the heritage of San Diego County in history, architecture, archaeology, engineering, and culture. A number of criteria are used in demonstrating resource importance.

In general, cultural resources that have data of scientific value are recommended as significant and eligible for CRHR listing, based on the application of state criteria for significant resources under CEQA (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852). CEQA contains regulations regarding cultural resources as historical resources, unique archaeological sites, and human remains. These provisions assist in assessing the importance of cultural resources. Section 15064.5 (a) of the CEQA guidelines provides a definition of "Historical Resources." Section 15064.5 (c) contains additional provisions regarding archaeological sites. Sections 15064.5 (d) & (e) contain additional provisions regarding human remains.

Other regulations must also be considered during evaluation of cultural resources. Specifically, the County of San Diego's Resource Protection Ordinance (RPO) protects significant cultural resources. The RPO defines "Significant Prehistoric and Historic Sites" in Section 2.

Determining what is an important cultural resource worth preserving is a subjective and interpretive process. Therefore, it is useful to utilize a standard assessment approach to evaluate cultural resources. In order to evaluate cultural resources, a comprehensive assessment must be conducted, including measuring the resource against the above CEQA guideline provisions and criteria established by the CRHR and RPO, as well as assessing the integrity of the resource.

2.0 GUIDELINES FOR DETERMINING SIGNIFICANCE

Determining resource significance is a two-step process. First, the cultural environment must be identified. Then the criteria for determining significance must be applied to the resource. A number of criteria are used in identifying the significance of historical/archaeological resources and are based upon the criteria for inclusion in the San Diego County Local Register. Significance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality to assist in illustrating or interpreting the heritage of San Diego County in history, architecture, archaeology, engineering, and culture.

The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, or is not included in a local register of historical resources (pursuant of Section 5020.1(k) of the Public Resources Code [PRC]), or is not identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC section 5020.1(j) or 5024.1.

Any site that yields information or has the potential to yield information is considered a significant site. Unless a resource is determined to be "not significant," it will be considered significant for management purposes.

2.1 County of San Diego Resource Protection Ordinance (RPO)

The County uses the CRHR criteria to evaluate the significance of cultural resources. In addition, other regulations must be considered during the evaluation of cultural resources. Specifically, the County of San Diego's RPO defines significant prehistoric and historic sites.

The County defines a significant prehistoric or historic site under its RPO as follows:

1. Any prehistoric or historic district, site, interrelated collection of features or artifacts, building, structure, or object either:
   (a) Formally determined eligible or listed in the National Register of Historic Places (NRHP); or
   (b) To which the Historic Resource (H designator) Special Area Regulations have been applied; or
2. One-of-a-kind, locally unique, or regionally unique cultural resources which contain a significant volume and range of data or materials; and
3. Any location of past or current sacred religious or ceremonial observances which is either:
   (a) Protected under Public Law 95-341, the American Religious Freedom Act, or PRC Section 5097.9, such as burials, pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground figures, or
   (b) Other formally designated and recognized sites which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

2.2 San Diego County Local Register of Historical Resources

The County maintains a Local Register that was modeled after the CRHR. Significance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of San Diego County in history, architecture, archaeology, engineering, or culture. Any resource that is significant at the national or state level is by definition significant at the local level. The criteria for eligibility for the Local Register are comparable to the criteria for eligibility for the CRHR and NRHP, but significance is evaluated at the local level. Included are:

(1) Resources associated with events that have made a significant contribution to the broad patterns of California or San Diego County's history and cultural heritage;

(2) Resources associated with the lives of persons important to our past, including the history of San Diego and our communities;

(3) Resources that embody the distinctive characteristics of a type, period, region (San Diego County), or method of construction, or represent the work of an important creative individual, or possesses high artistic values; or.

(4) Resources that have yielded or are likely to yield, information important in prehistory or history.

Districts are significant resources if they are composed of integral parts of the environment that collectively (but not necessarily as individual elements) are exceptional or outstanding examples of prehistory or history.

The County also treats human remains as "highly sensitive." They are considered significant if interred outside a formal cemetery. Avoidance is the preferred treatment.

Under County guidelines for determining significance of cultural and historical resources, any site that yields information or has the potential to yield information is considered a significant site (County of San Diego 2007:16). Unless a resource is determined to be "not significant" based on the criteria for eligibility described above, it will be considered a significant resource. If it is agreed to forgo significance testing on cultural sites, the sites will be treated as significant resources and must be preserved through project design (County of San Diego 2007:19).

2.3 California Register of Historic Resources and the California Environmental Quality Act

CEQA requires that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to historical resources. Historical resources are recognized as part of the environment under CEQA, which defines historical resources as "any object, building, structure, site, area, or place that is historically significant in the architectural, engineering, scientific, economic, agricultural, educational,

social, political, military, or cultural annals of California" (Division I, Public Resources Code, Section 5021.1[b]).

Lead agencies have a responsibility to evaluate historical resources against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources. Mitigation of adverse impacts is required if the proposed project will cause substantial adverse change. Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. While demolition and destruction are fairly obvious significant impacts, it is more difficult to assess when change, alteration, or relocation crosses the threshold of substantial adverse change. The CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of an historical resource that convey its historical significance (i.e., its character-defining features) is considered to materially impair the resource's significance. The CRHR is used in the consideration of historical resources relative to significance for purposes of CEQA. The CRHR includes resources listed in, or formally determined eligible for listing in, the NRHP and some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise.

Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) consisting of the following:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
- It is associated with the lives of persons important to local, California, or national history; or
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or, it has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

3.0 ANALYSIS OF PROJECT EFFECTS

The Secretary of the Interior has issued standards and guidelines for the identification and evaluation of historic properties (The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation [48 FR 44720–44726]), which are used to ensure that the procedures are adequate and appropriate. The identification and evaluation of historic properties are dependent upon the relationship of individual properties to other similar properties (NPS and ACHP 1998:18-20). Information about properties regarding their prehistory, history, architecture, and other aspects of culture must be collected and organized to define these relationships (NPS 2009), which is the intent of the current Class III cultural resources inventory.

3.1 Methods

The current investigation was conducted on June 2, 2011. The survey field crew consisted of a field director, Chad Willis, and one field technician, Ian Frasier-Shapiro, both of which met the applicable Secretary of the Interior Qualification standards for archaeology. There was also one local Native American Monitor on the field crew from the Pauma Band of Luiseño Indians, Gabe Kitchens.

3.1.1 Survey Methods

Standard transect spacing was 15 m, although methods call for spacing to be reduced to 3-5 m within identified archaeological sites in order to adequately define the site character. The systematic 15-m transects were interrupted to do judgmental inspections of locations such as bedrock outcrops within the APE. Transects generally followed an east-to-west orientation.

Survey forms on the progress, condition, and findings of the survey were completed. These forms included a description of vegetation cover (including contextual photos), as well as estimates of ground surface visibility, rated as poor (0-25 percent), fair (26-50 percent), good (51-75 percent), or excellent (76-100 percent).

Evidence for buried cultural deposits was opportunistically sought through inspection of natural or artificial erosion exposures and the spoils from rodent burrows. In the daily survey notes, the field director assessed the potential for buried sites on the basis of geomorphology. For instance, large alluvial valleys tend to have higher potential for buried sites, and areas with shallow bedrock have lower potential for buried sites.

The primary goal of this survey was to relocate previously recorded sites and inspect the surface for evidence of previously unknown deposits. ASM employs site definitions that meet the Secretary of Interior's standards for recording archaeological sites. These standards are based on the basic definition of a site as either three or more artifacts, or two or more artifacts of two different kinds, within a 25-m^2 area.

Standard global positioning systems (GPS) aided navigation in the field. Together with hard-copy field maps, GPS receivers were used to keep the field crew aware at all times of the limits of the APE, as well as areas of different land ownership, and were also used to record the datums of archaeological sites, if discovered, to decimeter-level accuracy. This information was downloaded with the Microsoft ActiveSync program and converted to GIS shape files using Pathfinder software. A GIS specialist created digital maps to accompany the site forms and report. All resources were recorded on appropriate Department of Parks and Recreation (DPR) 523 series site forms, with updates to be submitted to the SCIC.

3.1.2 Native American Participation

ASM Senior Archaeologist James T. Daniels, Jr., M.A., contacted the NAHC on November 24, 2010 to request a search of their files for any recorded Native American heritage sites located within 0.5 mi. of the APE. On December 3, 2010, Dave Singleton of the NAHC responded that no tribally significant Native American cultural resources have been documented within 0.5 mi. to the APE.

Mr. Singleton also provided a listing of Native American tribal representatives who may have further knowledge of such sites within the APE. Subsequently, on December 6, 2010, Mr. Daniels initiated contact to those tribal representatives by letter to solicit further information regarding known areas of Native American heritage significance. To date, no responses to these letters have been received. Copies of all correspondence regarding Native American consultation for this study are provided in Confidential Appendix B.

3.2 Results

Nine prehistoric sites were identified within the area surveyed. All of the sites were bedrock milling features with one or more grinding surfaces. No artifacts or midden soils were identified at any of the sites. All of the sites are outside of the proposed Major Use Permit Boundary. The location of the sites in relation to the project boundaries can be found in Confidential Appendix A. Survey conditions were poor to fair, with ground visibility impaired in areas of dense grass, especially around the archaeological sites (Figure 4). For this reason, extra time was spent near each archaeological site (marked by bedrock milling stations) inspecting the surrounding soils exposed in rodent burrows and in small areas of cleared groundcover. The general project area has been subject to intensive cultivation near and immediately adjacent to the bedrock outcrops that hold the archaeological features. Site specific details are provided in the following sections, while more detail is available on site forms provided in Confidential Appendix A.

3.2.1 SDI-20334 (CW-1)

This site consists of a single low lying bedrock milling station that contains four slicks (Figure 5). Each slick is similar in size measuring approximately 10 x 10 cm in diameter. The site is in fair condition; some slicks exhibit exfoliation. Vegetation at the site is very dense with ground

surface visibility characterized as poor at the time of survey. No midden soils or artifacts were identified near the milling station.

Figure 4. Overview of dense grass near a bedrock outcrop.

Figure 5. Overview of SDI-20334.

3.2.2 SDI-20335 (CW-2)

This site consists of a single low lying bedrock milling station that contains two slicks (Figure 6). Both slicks measure approximately 10 x 20 cm in size and both exhibit moderate exfoliation. Dense grass and shrubs surround the site obscuring the entire ground surface. No midden soil or artifacts were identified, despite careful inspection.

3.2.3 SDI-20336 (CW-3)

This site consists of a single low lying bedrock milling station that contains one slick (Figure 7). The slick measures approximately 10 x 20 cm in diameter and exhibits light exfoliation. Dense grass surrounds this boulder and obscures the ground surface. No midden soils or artifacts were observed on the ground or in rodent backdirt piles.

3.2.4 SDI-20337 (CW-4)

This site consists of a single low lying bedrock milling station that contains two slicks (Figure 8). The slicks are 10 x 10 cm and 10 x 20 cm in diameter. Each slick has been eroded and is partly exfoliated. The ground surface was almost entirely obscured by dense grass. No artifacts or midden soils were identified at the site.

Figure 6. Overview of SDI-20335.

Figure 7. Overview of SDI-20336.

Figure 8. Overview of SDI-20337.

3.2.5 SDI-20338 (CW-5)

This site consists of a single low lying bedrock milling station that contains one slick (Figure 9). The slick measures approximately 20 x 20 cm in diameter and is in fair condition with minor erosion. The bedrock outcrop housing the milling slick extends to the east onto an adjacent property that was not investigated. Dense vegetation made inspection of the ground surface difficult; no artifacts or midden was identified at the site.

3.2.6 SDI-20339 (CW-6)

This site consists of a single low lying bedrock milling station that contains two slicks (Figure10). Each slick is similar in size measuring approximately 20 x 20 cm in diameter and exhibits minor exfoliation. Grass at this site was very dense and the ground surface was completely obscured. Inspection of patches or soil and rodent backdirt piles did not reveal artifacts or midden soil.

3.2.7 SDI-20340 (CW-7)

This site consists of a low boulder with a single milling slick that measures approximately 30 x 30 cm in diameter (Figure 11). The slick is partly eroded. No artifacts or midden soils were observed, although the ground was completely obscured by dense grass.

3.2.8 SDI-20341 (CW-8)

This site consists of a large multi-boulder bedrock milling station that contains three slicks and one saucer mortar (Figure 12). Each slick is similar in size measuring approximately 10 x 10, 10 x 10, and 10 x 15 cm in diameter. The saucer mortar measures 8 x 8 cm in diameter and is 5 cm deep. The site is in fair condition, with the slicks exhibiting minor erosion. Dense vegetation hindered inspection of surrounding soils but no artifacts or midden soils were discovered.

3.2.9 SDI-20342 (CW-9)

This site consists of a single low lying bedrock milling station that contains one slick (Figure 13). The slick measures approximately 10 x 10 cm in diameter and is partly eroded. Intensive inspection of the ground surface did not reveal artifacts or midden soil. Dense grass reduced ground visibility to near zero except in small patches.

Figure 9. Overview of SDI-20338.

Figure 10. Overview of SDI-20339.

Figure 11. Overview of SDI-20340

Figure 12. Overview of SDI-20341.

Figure 13. Overview of SDI-20342.

4.0 INTERPRETATION OF RESOURCE IMPORTANCE AND IMPACT IDENTIFICATION

4.1 Resource Importance

This cultural resources inventory resulted in the discovery of nine newly identified prehistoric archaeological sites. All nine sites consist entirely of bedrock milling stations with one or more grinding surfaces evident on bedrock outcrops. No artifacts or midden soils were identified at any of the nine sites. Ground visibility was poor at each site. However, extra care was taken around each site to inspect patches of exposed soil, including rodent backdirt piles, to look for cultural material. Extensive cultivation of the general area, including the areas immediately adjacent to the bedrock outcrops would have exposed midden soils and substantial artifact deposits, if present. For this reason, it is unlikely that substantial or significant deposits of cultural material are present near these bedrock milling stations.The project design was accordingly redesigned to avoid impact to the sites. No subsurface testing was conducted to evaluate the newly recorded sites

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4.2 Impact Identification

The APE has been defined to exclude the recorded cultural resources with an approximate 50-ft. buffer and as such, the project will have no effect on known cultural resources.

5.0 MANAGEMENT CONSIDERATION – RECOMMENDATIONS

Because the project proposes 2400 cubic yards of grading, mostly near site SDI-20338, because of the number of newly recorded sites, and that 47 sites have been recorded within one mile, staff will require temporary fencing during grading if within 100' of a site and archaeological monitoring during project grading. To help ensure avoidance of potential adverse effects to cultural deposits, it is recommended that one archaeological monitor and one Native American monitor be present during project construction when activities occur adjacent to the approximate 50-ft. buffer around known cultural resources.

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7.0 LIST OF PREPARERS AND PERSON AND ORGANIZATIONS CONTACTED

Micah Hale (ASM Affiliates): Acted as Project Manager and Principal Investigator and co-authored the technical report.

Chad Willis (ASM Affiliates): Acted as Field Director and co-authored the technical report.

Nick Doose (SCIC): Conducted the CHRIS records search.

Dave Singleton (NAHC): Conducted Sacred Lands record search.

8.0 LIST OF MITIGATION MEASURES AND DESIGN CONSIDERATIONS

The project design plan was modified to ensure a buffer of at least 50 ft. around each of the newly encountered sites to avoid impacts to the sites.

Designation		Site Type	Mitigation Measures
Primary Number P-37-	Trinomial CA-SDI-		
032092	20334	AP4. Bedrock milling feature	Avoidance and monitoring during grading
032093	20335	AP4. Bedrock milling feature	Avoidance and monitoring during grading
032094	20336	AP4. Bedrock milling feature	Avoidance and monitoring during grading
032095	20337	AP4. Bedrock milling feature	Avoidance and monitoring during grading
032096	20338	AP4. Bedrock milling feature	Avoidance and monitoring during grading
032097	20339	AP4. Bedrock milling feature	Avoidance and monitoring during grading
022098	20340	AP4. Bedrock milling feature	Avoidance and monitoring during grading
032099	20341	AP4. Bedrock milling feature	Avoidance and monitoring during grading
032100	20342	AP4. Bedrock milling feature	Avoidance and monitoring during grading

CONFIDENTIAL APPENDICES

APPENDIX A

Site Location Maps, New Site Forms, Record Search Verification Form - *Confidential*

Appendix B.

Native American Consultation - *Confidential*